

## SENSING HEAD POSITIONING SYSTEM USING TWO-STAGE OFFSET AIR BEARINGS

### ABSTRACT OF THE DISCLOSURE

A system is provided wherein a plurality of high accuracy air injectors are disposed along the edges of a sensor plate of a sensing head to form an air bearing and a plurality of high displacement air injectors are also disposed along the edges of the sensor plate to form an air bearing, each independently controlled, with the sensing head having high accuracy and low accuracy separation distance sensors coupled in a feedback loop through a mapper (a programmable CPU) which, without knowledge of the exact position of the sensors or air injectors, but being responsive to feedback information, iteratively adjusts relative separation of the sensor plate and a flat panel workpiece to the desired positional accuracy through digital to analog converters supplying control signals to analog amplifiers controlling orifices. Translation is effected after the high displacement air injectors are activated, with the combination of flow of air from the air bearing outlets along the edge of the sensor plate and the translation in x and y of the flat panel being operative to air brush sweep the surface of the flat panel.

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